

## FCC Part 15C Compliance Test Report

|                                                         |                                                                                                                                                                                                                                                                                 |                                   |                                                                                                                             |
|---------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| <b>Test Report no.:</b>                                 | FCC15CBTLE_RM-1066_105                                                                                                                                                                                                                                                          | <b>Date of Report:</b>            | 01-Dec-2014                                                                                                                 |
| <b>Number of pages:</b>                                 | 23                                                                                                                                                                                                                                                                              | <b>Customer's Contact person:</b> | Jari Rontu                                                                                                                  |
| <b>Testing laboratory:</b>                              | TCC Microsoft Salo Laboratory<br>P.O.Box(86)<br>Joensuunkatu 7E<br>FIN-24101 SALO, FINLAND<br>Tel. +358 (0) 7180 08000<br>Fax. +358 71 80 44122                                                                                                                                 | <b>Customer:</b>                  | Microsoft<br>P.O.Box(86)<br>Joensuunkatu 7E<br>FIN-24101 SALO, FINLAND<br>Tel. +358 (0) 7180 08000<br>Fax. +358 71 80 44122 |
| <b>FCC listing no.:</b>                                 | 533467                                                                                                                                                                                                                                                                          |                                   |                                                                                                                             |
| <b>IC recognition no.:</b>                              | 661V-1                                                                                                                                                                                                                                                                          |                                   |                                                                                                                             |
| <b>Tested devices/ accessories:</b>                     | <b>Phone RM-1066 / Dummy Battery SD-238R / Battery BV-T4B / Ac-Charger AC-20E / Headset WH-108</b>                                                                                                                                                                              |                                   |                                                                                                                             |
| <b>FCC ID:</b>                                          | PYABBB                                                                                                                                                                                                                                                                          | <b>IC:</b>                        | -                                                                                                                           |
| <b>Supplement reports:</b>                              | -                                                                                                                                                                                                                                                                               |                                   |                                                                                                                             |
| <b>Testing has been carried out in accordance with:</b> | CFR 47, FCC rules Part 15 Subpart C, ANSI C63.4 (2003), DTS procedures KDB 558074, IC standards, RSS-210 (Issue 8, December 2010). Deviations, modifications or clarifications (if any) to above mentioned documents are written in each section under "Test method and limit". |                                   |                                                                                                                             |
| <b>Documentation:</b>                                   | The test report must always be reproduced in full; reproduction of an excerpt only is subject to written approval of the testing laboratory. The documentation of the testing performed on the tested devices is archived for 15 years at TCC Microsoft.                        |                                   |                                                                                                                             |
| <b>Test Results:</b>                                    | <b>The EUT complies with the requirements in respect of all parameters subject to the test.</b><br>The test results relate only to devices specified in this document                                                                                                           |                                   |                                                                                                                             |
| <b>Date and signature for the contents:</b>             |                                                                                                                                                                                                                                                                                 |                                   |                                                                                                                             |

Sami Lehtonen, Specialist, EMC

## 1. Summary for FCC Part 15C Compliance Test Report

|                               |                                                       |
|-------------------------------|-------------------------------------------------------|
| Date of receipt               | 28-Oct-2014                                           |
| Testing completed             | 16-Nov-2014                                           |
| The customer's contact person | Jari Rontu                                            |
| Test Plan referred to         | T:\Projects\RM-1062\TestPlan\RS_Testplan_RM-1062.xlsm |
| Notes                         | -                                                     |
| Document name                 | T:\Projects\RM-1066\EMC\FCC15CBTLE_RM-1066_105.docx   |

### 1.1. EUT and Accessory Information

The EUT is a mobile phone with following features:

GSM/WCDMA/WLAN/Bluetooth

The EUT is tested with maximum rated TX power.

Devices under tests

| Product       | Type    | SN                          | HW   | MV | SW                      | DUT   |
|---------------|---------|-----------------------------|------|----|-------------------------|-------|
| Phone         | RM-1062 | 004402740524420             | 3153 |    | 02148.00000.14431.29000 | 18682 |
| Dummy Battery | SD-238R |                             | v.1  | -  | -                       | 18687 |
| Phone         | RM-1062 | 004402740524461             | 3153 | -  | 02148.00000.14431.29000 | 18732 |
| Battery       | BV-T4B  | 4181574345C10103838;0670764 | -    | -  | -                       | 18733 |
| Ac-Charger    | AC-20E  | 409049415667071145500675628 | -    | -  | -                       | 18697 |
| Headset       | WH-108  | 4235VFA                     | -    | -  | -                       | 18698 |

### 1.2. Summary of Test Results

Bluetooth Low Energy:

| Section in CFR 47    | Section in RSS-GEN or RSS-210 | Name of the test                     | Result |
|----------------------|-------------------------------|--------------------------------------|--------|
| 15.247(b)(1)         | A8.4(4)                       | Conducted peak output power          | PASSED |
| 15.247(d), 15.205(b) | A8.5                          | Band edge compliance of RF emissions | PASSED |
| 15.247(d)            | A8.5                          | Spurious RF conducted emissions      | PASSED |
| 15.247(d), 15.209    | A8.5                          | Spurious radiated emissions          | PASSED |
| 15.207               | 7.2.4                         | AC powerline conducted emissions     | NP     |
| 15.247(a)(2)         | A8.2(a)                       | 6dB(bandwidth)                       | PASSED |
| 15.247(e)            | A8.2(b)                       | Power spectral density               | PASSED |

PASSED

FAILED

NP

The EUT complies with the essential requirements in the standard.

The EUT does not comply with the essential requirements in the standard.

The test was not performed by the TCC Microsoft Laboratory.

The test result of PYARM-1062 are re-used for certification of the PYABBB. The table above indicates the results, which will be re-used

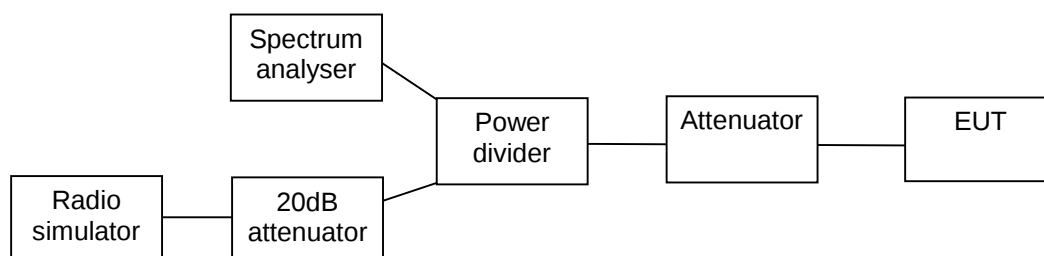
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## 2. Conducted peak output power (FCC §15.247(b)(1), RSS-210 A8.4(4))

|                                                 |                    |
|-------------------------------------------------|--------------------|
| EUT with DUT number                             | RM-1062, DUT 18682 |
| Accessories with DUT numbers                    | SD-238R, DUT 18687 |
| Operation Voltage [V] / [Hz]                    | Nominal            |
| Results                                         | PASSED             |
| Remarks                                         | -                  |
| Temp [°C] / Humidity [%RH] / Air Pressure [kPa] | 21 / 52 / 102.5    |
| Date of measurements                            | 29-Oct-2014        |
| Measured by                                     | Jari Keto          |

### 2.1. Test Setup



### 2.2. Test method and limit

The measurement is made according to DTS procedures KDB 558074 and IC standard RSS-210.

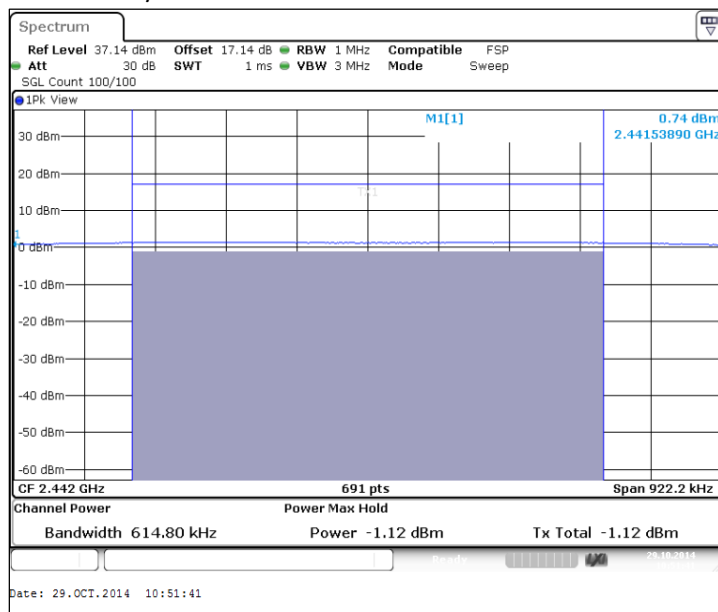
Limits for conducted peak output power measurements

| Frequency range [MHz]        | Limit [W] | Limit [dBm] |
|------------------------------|-----------|-------------|
| 2400 – 2483.5<br>5725 - 5850 | $\leq 1$  | $\leq 30$   |

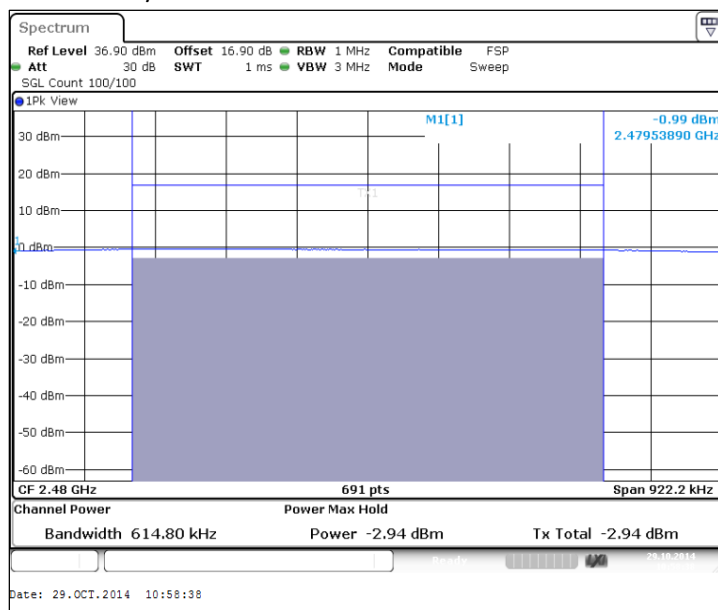
### 2.3. Bluetooth Low Energy Test results

| Channel / f <sub>c</sub> [MHz] | P [dBm] | P [mW] | Result |
|--------------------------------|---------|--------|--------|
| 20 / 2442                      | -1.12   | 0.773  | PASSED |
| 39 / 2480                      | -2.94   | 0.508  | PASSED |
| 0 / 2402                       | -2.71   | 0.536  | PASSED |

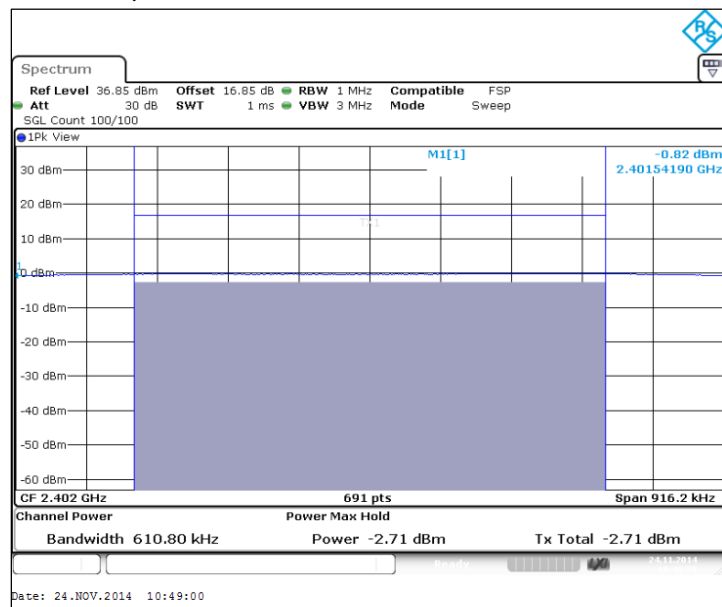
#### Channel 20 / 2442 MHz



#### Channel 39 / 2480 MHz



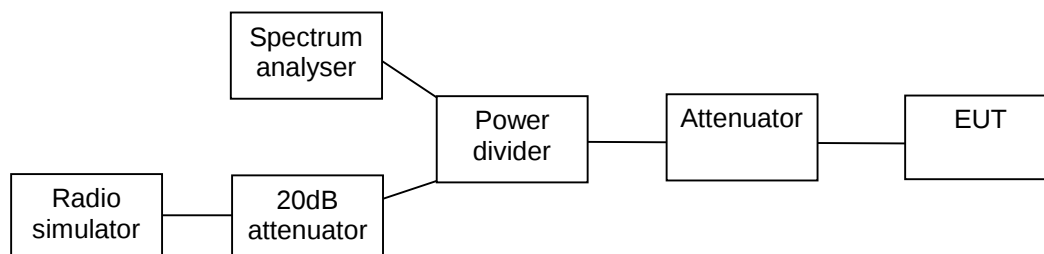
Channel 0 / 2402 MHz



### 3. Spurious RF conducted emissions (FCC §15.247(d), RSS-210 A8.5)

|                                                        |                    |
|--------------------------------------------------------|--------------------|
| <b>EUT with DUT number</b>                             | RM-1062, DUT 18682 |
| <b>Accessories with DUT numbers</b>                    | SD-238R, DUT 18687 |
| <b>Operation Voltage [V] / [Hz]</b>                    | Nominal            |
| <b>Results</b>                                         | PASSED             |
| <b>Remarks</b>                                         | -                  |
| <b>Temp [°C] / Humidity [%RH] / Air Pressure [kPa]</b> | 21 / 52 / 102.5    |
| <b>Date of measurements</b>                            | 29-Oct-2014        |
| <b>Measured by</b>                                     | Jari Keto          |

#### 3.1. Test Setup



#### 3.2. Test method and limit

The measurement is made according to Public notice KDB 558 074 and IC standard RSS-210.

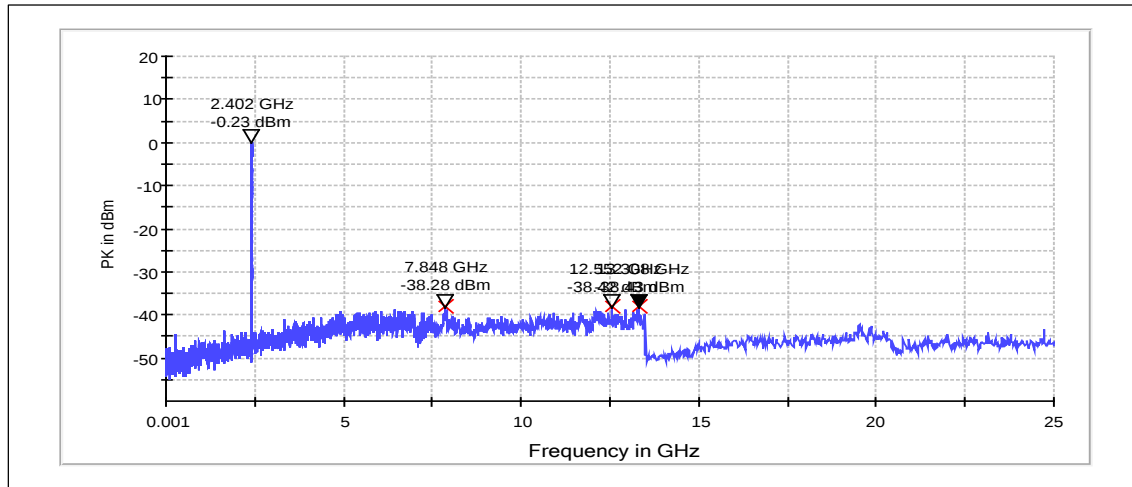
The reference level for the -20 dBc measurement was obtained as instructed in section 11.2 of the KDB 558074, using span of 1.5 times the OBW.

Limits for spurious RF conducted emissions measurements

| Frequency range [MHz] | Limit [dBc] |
|-----------------------|-------------|
| 1 – 25000             | <= -20      |

### 3.3. Bluetooth Low Energy Test results

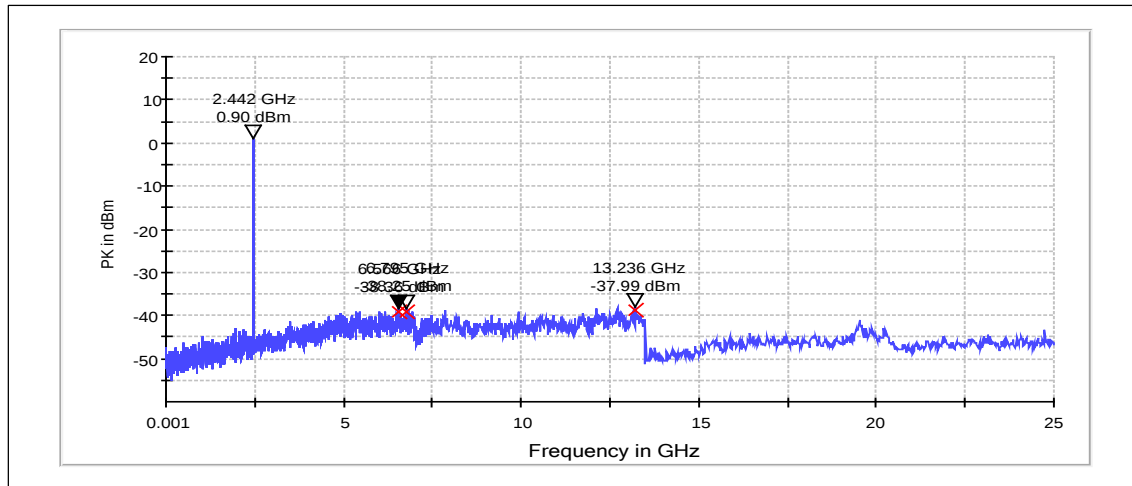
Channel 0 / 2402 MHz



Peak (RBW: 100 kHz, VBW: 300 kHz)

| Frequency [MHz] | P [dBc] | Result |
|-----------------|---------|--------|
| 7848.000        | -38.05  | PASSED |
| 12552.000       | -38.19  | PASSED |
| 13308.000       | -38.20  | PASSED |

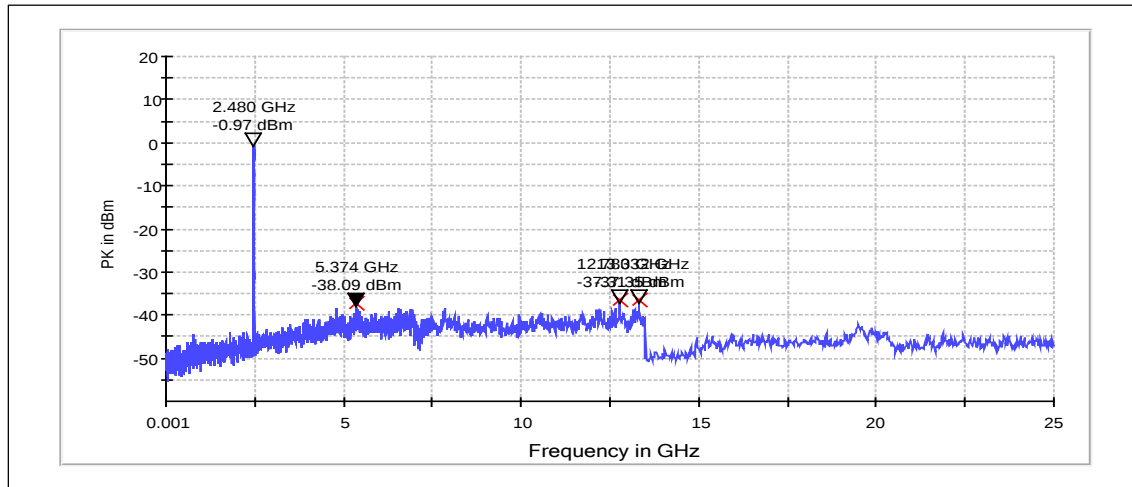
Channel 20 / 2442 MHz



Peak (RBW: 100 kHz, VBW: 300 kHz)

| Frequency [MHz] | P [dBc] | Result |
|-----------------|---------|--------|
| 13236.000       | -38.89  | PASSED |
| 6795.200        | -39.15  | PASSED |
| 6566.400        | -39.27  | PASSED |

Channel 39 / 2480 MHz



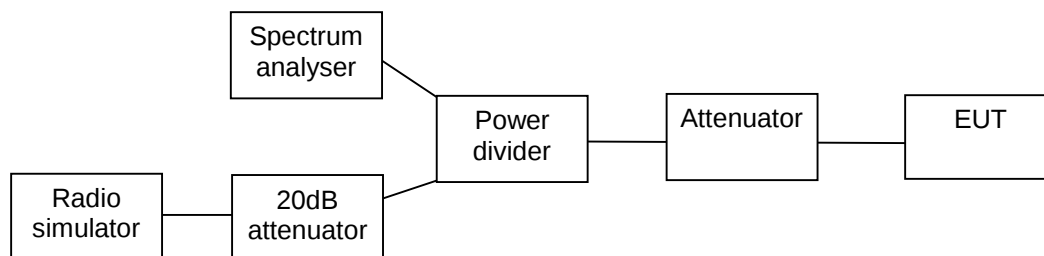
Peak (RBW: 100 kHz, VBW: 300 kHz)

| Frequency [MHz] | P [dBc] | Result |
|-----------------|---------|--------|
| 12780.000       | -36.33  | PASSED |
| 13332.000       | -36.37  | PASSED |
| 5374.000        | -37.12  | PASSED |

#### 4. 6dB(bandwidth) (FCC §15.247(a)(2), RSS-210 A8.2(a))

|                                                 |                    |
|-------------------------------------------------|--------------------|
| EUT with DUT number                             | RM-1062, DUT 18682 |
| Accessories with DUT numbers                    | SD-238R, DUT 18687 |
| Operation Voltage [V] / [Hz]                    | Nominal            |
| Results                                         | PASSED             |
| Remarks                                         | -                  |
| Temp [°C] / Humidity [%RH] / Air Pressure [kPa] | 21 / 52 / 102.5    |
| Date of measurements                            | 29-Oct-2014        |
| Measured by                                     | Jari Keto          |

##### 4.1. Test Setup



##### 4.2. Test method and limit

The measurement is made according to DTS procedures KDB 558074 and IC standard RSS-210.

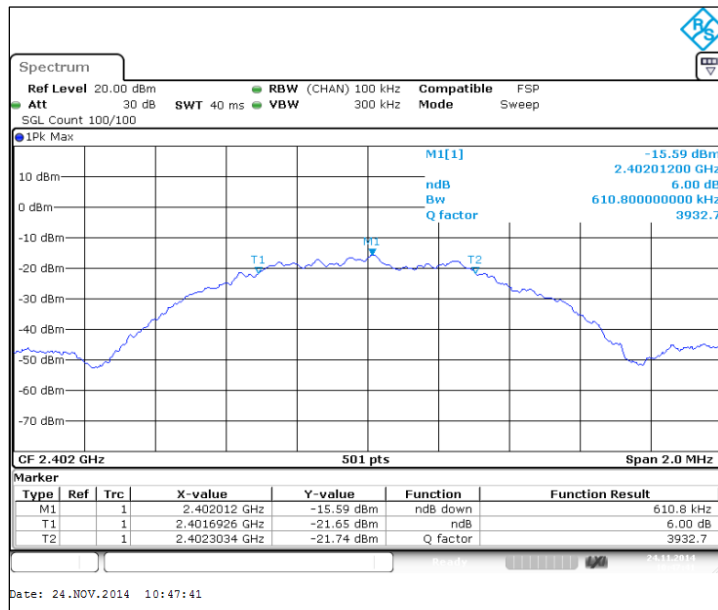
Limits for 6 dB bandwidth measurements

| Limit [kHz] |
|-------------|
| >= 500      |

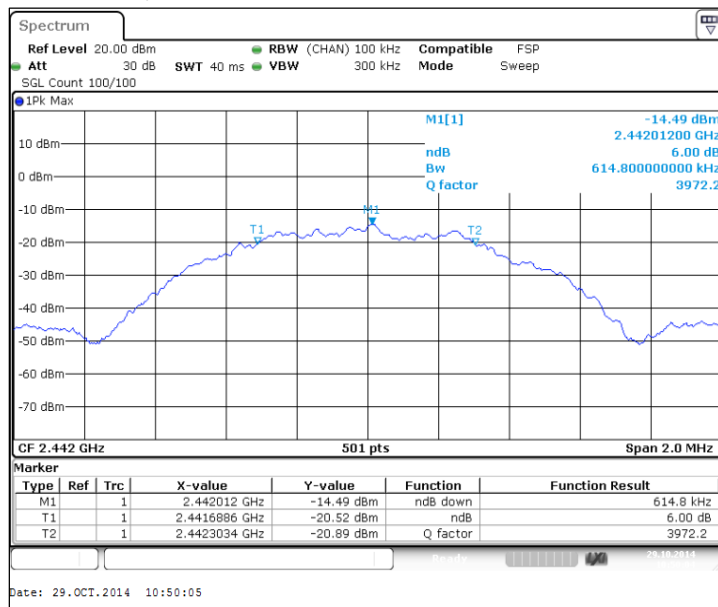
### 4.3. Bluetooth Low Energy Test results

| Channel / f <sub>c</sub> [MHz] | 6 dB bandwidth [kHz] | Result |
|--------------------------------|----------------------|--------|
| 0 / 2402                       | 610.8                | PASSED |
| 20 / 2442                      | 614.8                | PASSED |
| 39 / 2480                      | 614.8                | PASSED |

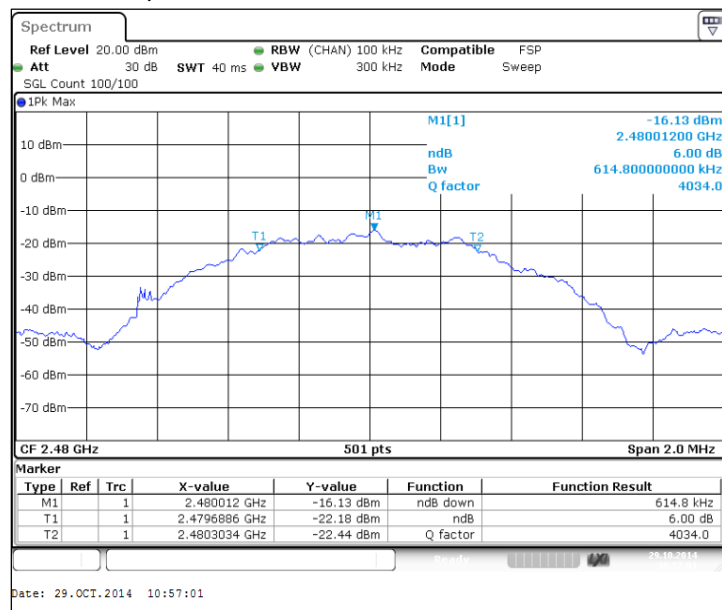
#### Channel 0 / 2402 MHz



#### Channel 20 / 2442 MHz



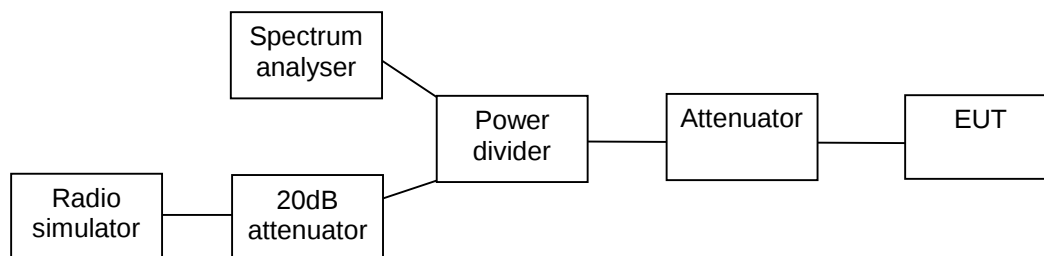
## Channel 39 / 2480 MHz



## 5. Power spectral density (FCC §15.247(e), RSS-210 A8.2(b))

|                                                 |                    |
|-------------------------------------------------|--------------------|
| EUT with DUT number                             | RM-1062, DUT 18682 |
| Accessories with DUT numbers                    | SD-238R, DUT 18687 |
| Operation Voltage [V] / [Hz]                    | Nominal            |
| Results                                         | PASSED             |
| Remarks                                         | -                  |
| Temp [°C] / Humidity [%RH] / Air Pressure [kPa] | 21 / 52 / 102.5    |
| Date of measurements                            | 29-Oct-2014        |
| Measured by                                     | Jari Keto          |

### 5.1. Test Setup



### 5.2. Test method and limit

The measurement is made according to DTS procedures KDB 558074 and IC standard RSS-210.

Limits for power spectral density measurements

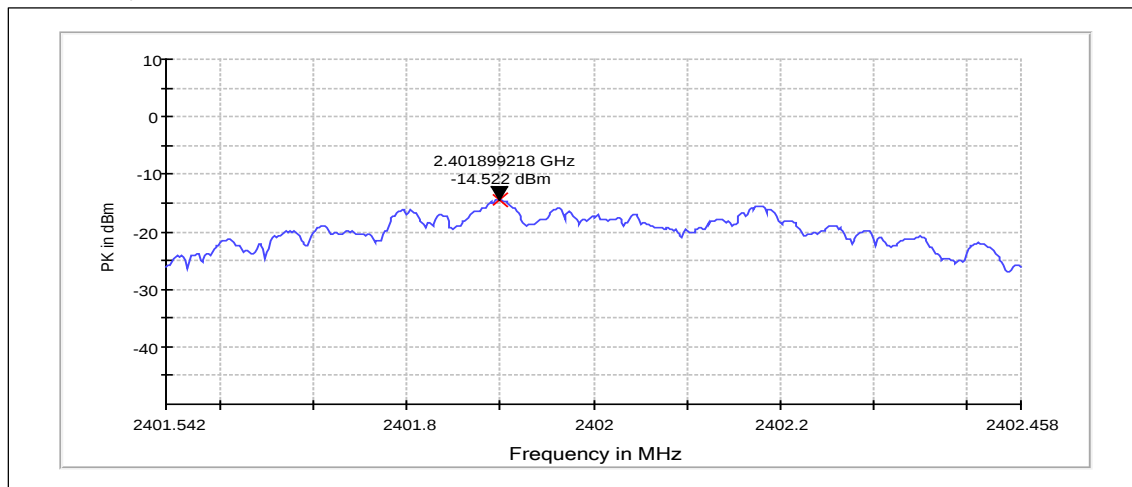
| Limit [dBm] @ 3 kHz |
|---------------------|
| <= 8                |

### 5.3. Bluetooth Low Energy Test results

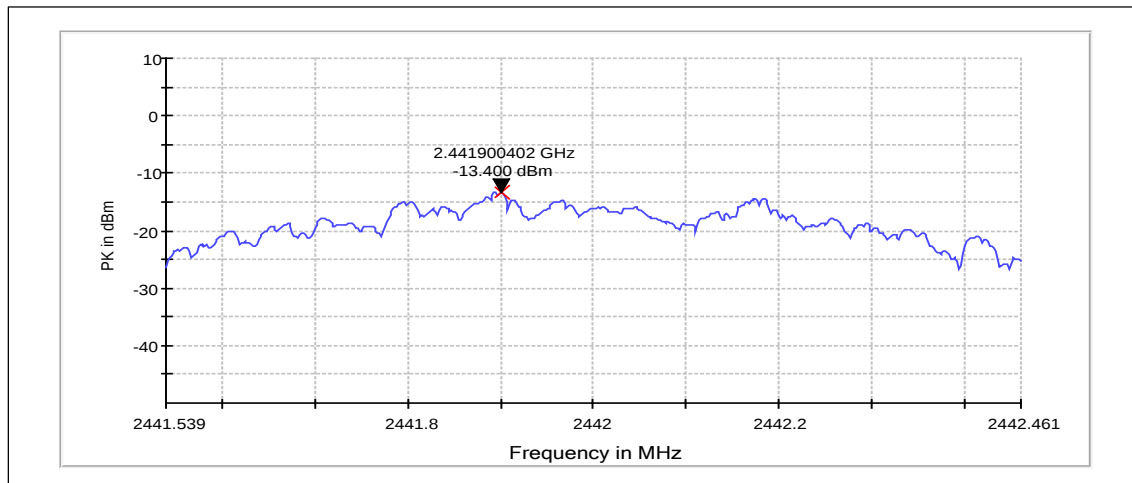
Peak (RBW: 3 kHz, VBW: 10 kHz, Max hold)

| Channel / $f_c$ [MHz] | P [dBm] | Result |
|-----------------------|---------|--------|
| 0 / 2402              | -14.52  | PASSED |
| 20 / 2442             | -13.4   | PASSED |
| 39 / 2480             | -15.16  | PASSED |

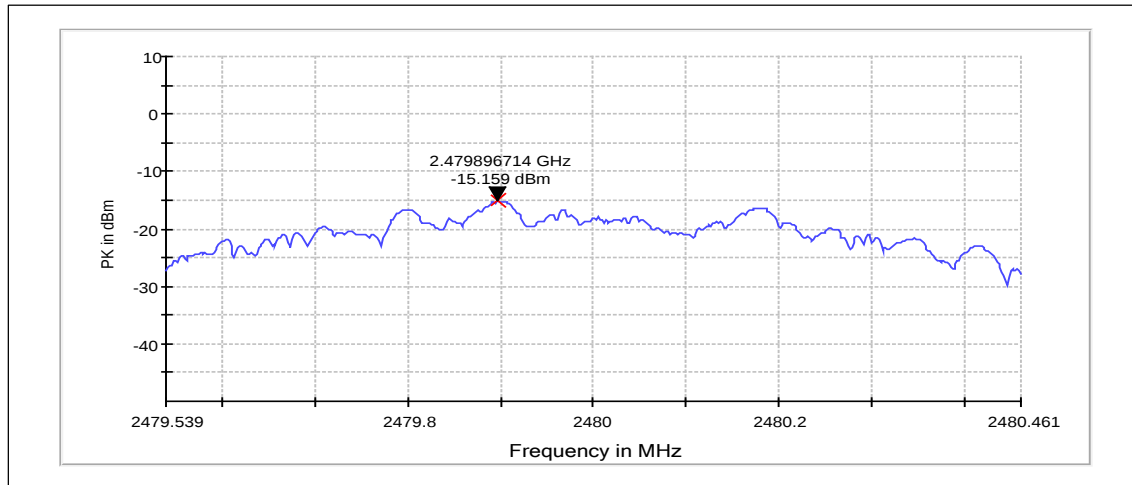
Channel 0 / 2402 MHz



Channel 20 / 2442 MHz



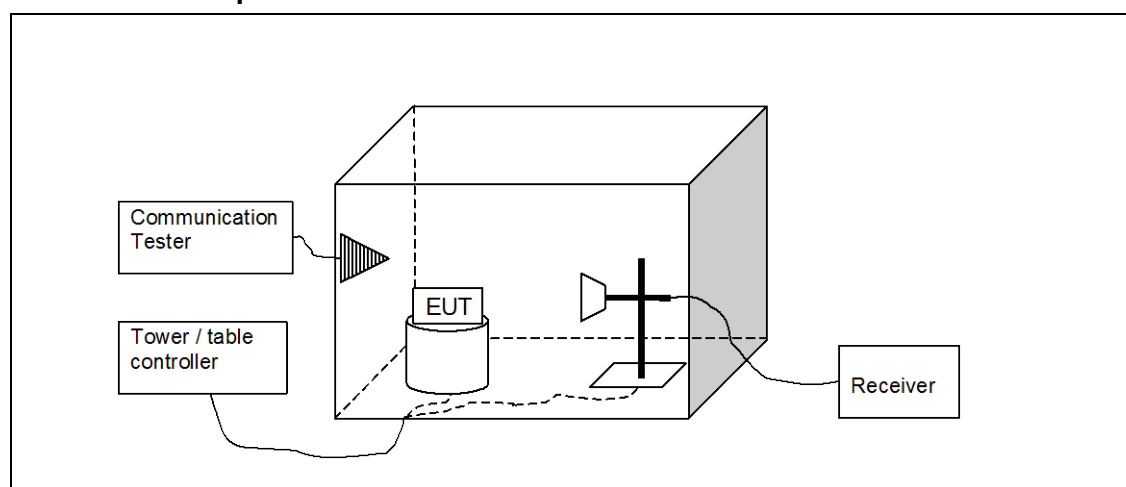
Channel 39 / 2480 MHz



## 6. Band edge compliance of RF emissions (FCC 15.247(d), 15.205(b), RSS-210 A8.5)

|                                                 |                                                           |
|-------------------------------------------------|-----------------------------------------------------------|
| EUT with DUT number                             | RM-1062, DUT 18732                                        |
| Accessories with DUT numbers                    | BV-T4B, DUT 18733 ; AC-20E, DUT 18697 ; WH-108, DUT 18698 |
| Operation Voltage [V] / [Hz]                    | Nominal                                                   |
| Results                                         | PASSED                                                    |
| Remarks                                         | -                                                         |
| Temp [°C] / Humidity [%RH] / Air Pressure [kPa] | 21 / 52 / 102.5                                           |
| Date of measurements                            | 16-Nov-2014                                               |
| Measured by                                     | Kalle Hannila                                             |

### 6.1.1 Test setup



### 6.2. Test method and limit

The measurement is made according to DTS procedures KDB 558074 and IC standard RSS-210.

The measurement results are obtained as described below:

$$E [dB\mu V/m] = U_{RX} + A_{TOT}$$

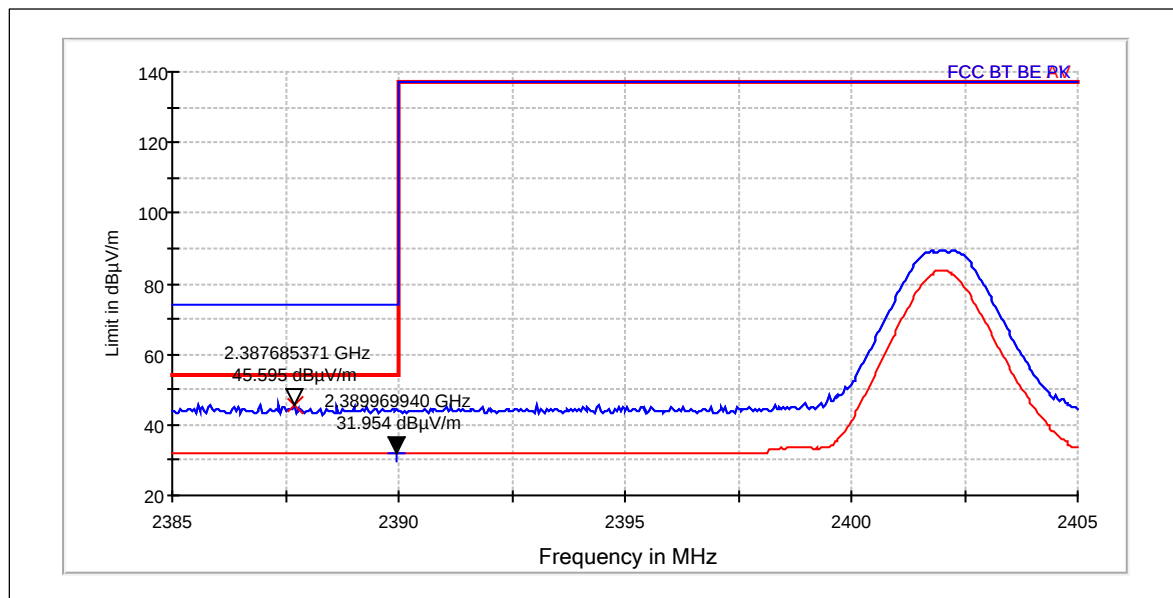
Where  $U_{RX}$  is receiver reading and  $A_{TOT}$  is total correction factor including cable loss, antenna factor and preamplifier gain ( $A_{TOT} = L_{CABLES} + A_F - G_{PREAMP}$ ).

Limits for band edge compliance of RF emissions measurements (3 m measurement distance)

| Frequency range [MHz]       | Limit                              |
|-----------------------------|------------------------------------|
| Below 2390 and above 2483.5 | 54 dBuV/m (avg) and 74 dBuV/m (pk) |

### 6.3. Bluetooth Low Energy test results

Channel 0 / 2402 MHz



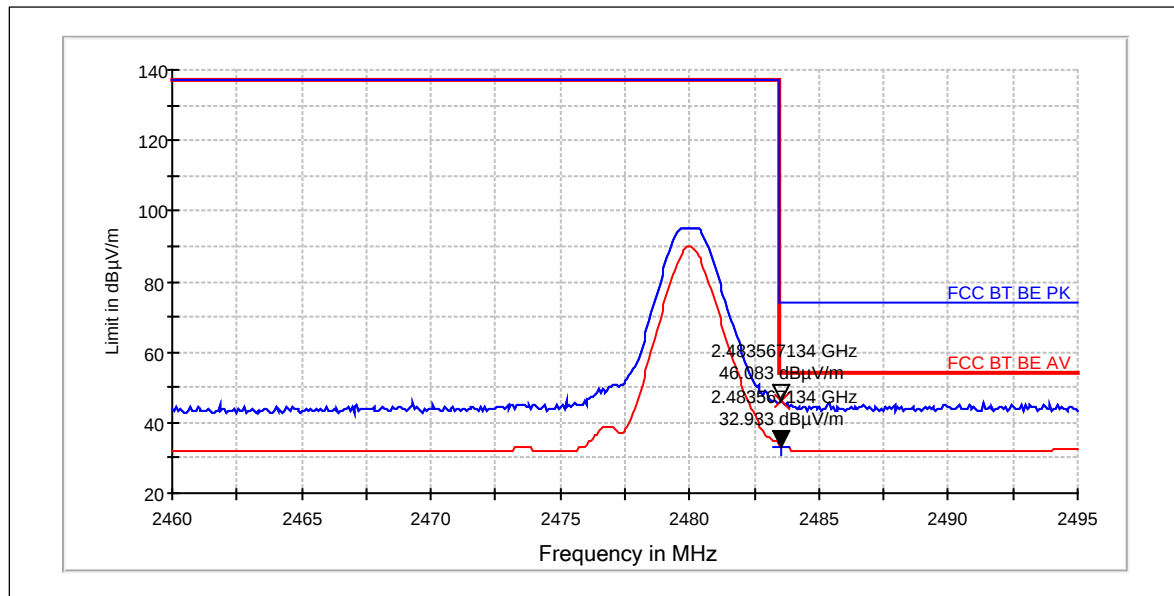
Peak (RBW: 1 MHz, VBW: 1 MHz)

| Frequency [MHz] | E [dBμV/m] | E [μV/m] | U <sub>RX</sub> [dBμV] | A <sub>TOT</sub> [dB] | Results |
|-----------------|------------|----------|------------------------|-----------------------|---------|
| 2388            | 45.6       | 190.436  | 47.27                  | -1.67                 | PASSED  |

Average (RBW: 1 MHz, VBW: 1 MHz)

| Frequency [MHz] | E [dBμV/m] | E [μV/m] | U <sub>RX</sub> [dBμV] | A <sub>TOT</sub> [dB] | Results |
|-----------------|------------|----------|------------------------|-----------------------|---------|
| 2390            | 31.95      | 39.6     | 33.62                  | -1.67                 | PASSED  |

Channel 39 / 2480 MHz



Peak (RBW: 1 MHz, VBW: 1 MHz)

| Frequency [MHz] | E [dBμV/m] | E [μV/m] | U <sub>RX</sub> [dBμV] | A <sub>TOT</sub> [dB] | Results |
|-----------------|------------|----------|------------------------|-----------------------|---------|
| 2484            | 46.08      | 201.442  | 47.62                  | -1.54                 | PASSED  |

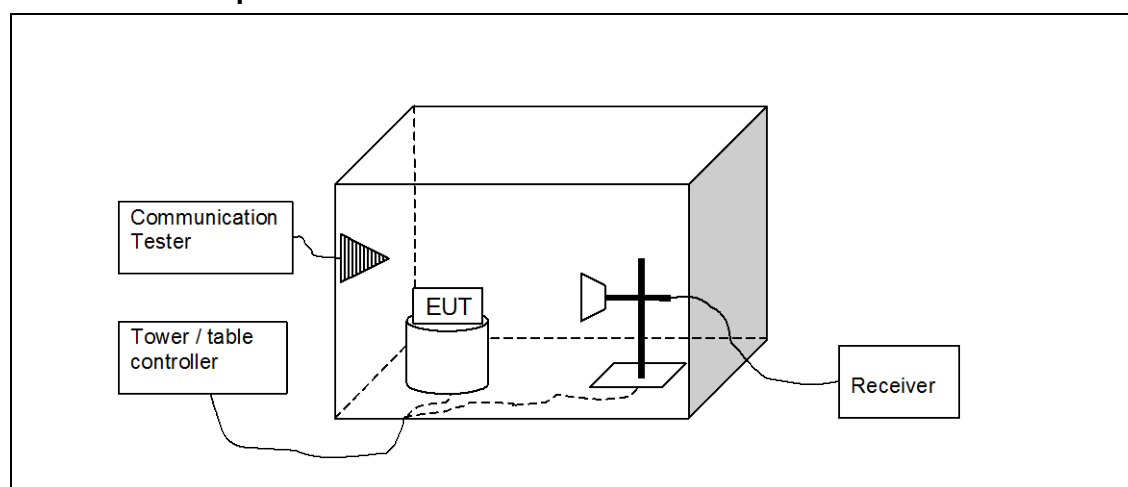
Average (RBW: 1 MHz, VBW: 1 MHz)

| Frequency [MHz] | E [dBμV/m] | E [μV/m] | U <sub>RX</sub> [dBμV] | A <sub>TOT</sub> [dB] | Results |
|-----------------|------------|----------|------------------------|-----------------------|---------|
| 2484            | 32.93      | 44.325   | 34.47                  | -1.54                 | PASSED  |

## 7. Spurious radiated emissions (FCC 15.247(d), 15.209, RSS-210 A8.5)

|                                                 |                                                           |
|-------------------------------------------------|-----------------------------------------------------------|
| EUT with DUT number                             | RM-1062, DUT 18732                                        |
| Accessories with DUT numbers                    | BV-T4B, DUT 18733 ; AC-20E, DUT 18697 ; WH-108, DUT 18698 |
| Operation Voltage [V] / [Hz]                    | Nominal                                                   |
| Results                                         | PASSED                                                    |
| Remarks                                         | -                                                         |
| Temp [°C] / Humidity [%RH] / Air Pressure [kPa] | 21 / 52 / 102.5                                           |
| Date of measurements                            | 16-Nov-2014                                               |
| Measured by                                     | Kalle Hannila                                             |

### 7.1.1 Test setup



### 7.2. Test method and limit

The measurement is made according to DTS procedures KDB 558074 and IC standard RSS-210 as follows:

The measurement is divided into the Preliminary Measurement and the Final Measurement.

The suspected frequencies are searched for in Preliminary Measurement with absorbers on the floor and measuring antenna at fixed height using 2-axis EUT position system.

The Final Measurement is performed in the Semi-Anechoic Chamber with conducting metal floor, if the Preliminary Measurement results are closer than 20 dB to the permissible value.

The EUT is placed at nonconductive plate at the turntable center.

For each suspected frequency, the turntable is rotated 360 degrees and antenna is scanned from 1 to 4 m. This is repeated for both horizontal and vertical receive antenna polarizations.

The emissions less than 20 dB below the permissible value are reported.

The measurement is made up to 10th harmonic of the EUT highest TX channel.

The measurement results are obtained as described below:

$$E [dB\mu V/m] = U_{RX} + A_{TOT}$$

Where  $U_{RX}$  is receiver reading and  $A_{TOT}$  is total correction factor including cable loss, antenna factor and preamplifier gain ( $A_{TOT} = L_{CABLES} + A_F - G_{PREAMP}$ ).

Limits for spurious radiated emissions measurements (3 m measurement distance)

| Frequency range [MHz] | Limit [ $\mu V/m$ ] | Limit [dB $\mu V/m$ ] | Detector   |
|-----------------------|---------------------|-----------------------|------------|
| 30 - 88               | 100                 | 40                    | Quasi peak |
| 88 – 216              | 150                 | 43.5                  | Quasi peak |
| 216 – 960             | 200                 | 46                    | Quasi peak |
| 960 – 1000            | 500                 | 54                    | Quasi peak |
| Above 1000            | 500                 | 54                    | Average    |
| Above 1000            | 5000                | 74                    | Peak       |

### 7.3. Bluetooth Low Energy test results

Channel 20 / 2442 MHz

Quasi peak (RBW: 100 kHz, VBW: 100 kHz)

| Frequency [MHz] | E [dBμV/m] | E [μV/m] | U <sub>RX</sub> [dBμV] | A <sub>TOT</sub> [dB] | Limit [dBμV/m] | Margin | Results |
|-----------------|------------|----------|------------------------|-----------------------|----------------|--------|---------|
| 39.736          | 27.98      | 25.061   | 35.98                  | -8                    | 40             | 12.02  | PASSED  |
| 40.683          | 32.72      | 43.251   | 41.32                  | -8.6                  | 40             | 7.28   | PASSED  |
| 40.689          | 32.51      | 42.218   | 41.11                  | -8.6                  | 40             | 7.49   | PASSED  |

Peak (RBW: 1 MHz, VBW: 1 MHz)

| Frequency [MHz] | E [dBμV/m] | E [μV/m] | U <sub>RX</sub> [dBμV] | A <sub>TOT</sub> [dB] | Limit [dBμV/m] | Margin | Results |
|-----------------|------------|----------|------------------------|-----------------------|----------------|--------|---------|
| 4880.5          | 41.4       | 117.49   | 42.6                   | -1.2                  | 74             | 32.58  | PASSED  |
| 7318.5          | 46.42      | 209.411  | 42.22                  | 4.2                   | 74             | 27.56  | PASSED  |

Average (RBW: 1 MHz, VBW: 1 MHz)

| Frequency [MHz] | E [dBμV/m] | E [μV/m] | U <sub>RX</sub> [dBμV] | A <sub>TOT</sub> [dB] | Limit [dBμV/m] | Margin | Results |
|-----------------|------------|----------|------------------------|-----------------------|----------------|--------|---------|
| 4880.5          | 28.03      | 25.206   | 29.23                  | -1.2                  | 54             | 25.95  | PASSED  |
| 7318.5          | 33.67      | 48.25    | 29.47                  | 4.2                   | 54             | 20.31  | PASSED  |

Channel 0 / 2402 MHz

Peak (RBW: 1 MHz, VBW: 1 MHz)

| Frequency [MHz] | E [dBμV/m] | E [μV/m] | U <sub>RX</sub> [dBμV] | A <sub>TOT</sub> [dB] | Limit [dBμV/m] | Margin | Results |
|-----------------|------------|----------|------------------------|-----------------------|----------------|--------|---------|
| 4824.9          | 40.43      | 105.075  | 41.73                  | -1.3                  | 74             | 33.55  | PASSED  |
| 7237.2          | 47.27      | 230.94   | 43.47                  | 3.8                   | 95             | 47.96  | PASSED  |

Average (RBW: 1 MHz, VBW: 1 MHz)

| Frequency [MHz] | E [dBμV/m] | E [μV/m] | U <sub>RX</sub> [dBμV] | A <sub>TOT</sub> [dB] | Limit [dBμV/m] | Margin | Results |
|-----------------|------------|----------|------------------------|-----------------------|----------------|--------|---------|
| 4824.9          | 27.31      | 23.201   | 28.61                  | -1.3                  | 54             | 26.67  | PASSED  |
| 7237.2          | 33.36      | 46.559   | 29.56                  | 3.8                   | ---            | ---    | PASSED  |

Channel 39 / 2480 MHz

Peak (RBW: 1 MHz, VBW: 1 MHz)

| Frequency [MHz] | E [dBμV/m] | E [μV/m] | U <sub>RX</sub> [dBμV] | A <sub>TOT</sub> [dB] | Limit [dBμV/m] | Margin | Results |
|-----------------|------------|----------|------------------------|-----------------------|----------------|--------|---------|
| 4925.3          | 40.97      | 111.815  | 42.07                  | -1.1                  | 74             | 33.01  | PASSED  |
| 7386.2          | 47.15      | 227.772  | 42.45                  | 4.7                   | 74             | 26.83  | PASSED  |

Average (RBW: 1 MHz, VBW: 1 MHz)

| Frequency [MHz] | E [dBμV/m] | E [μV/m] | U <sub>RX</sub> [dBμV] | A <sub>TOT</sub> [dB] | Limit [dBμV/m] | Margin | Results |
|-----------------|------------|----------|------------------------|-----------------------|----------------|--------|---------|
| 4925.3          | 28.35      | 26.152   | 29.45                  | -1.1                  | 54             | 25.63  | PASSED  |
| 7386.2          | 33.88      | 49.431   | 29.18                  | 4.7                   | 54             | 20.1   | PASSED  |

## 8. Test Equipment

### 8.1. Conducted measurements

| Eq. No | Equipment                       | Type          | Manufacturer  | Used in            |
|--------|---------------------------------|---------------|---------------|--------------------|
| 6039   | USB Interface                   | 5541765       | Testo         | 22/24/27, 15C, 15B |
| 6044   | V-network                       | ESH3-Z6       | R&S           | -                  |
| 2059   | V-network                       | ESH3-Z6       | R&S           | -                  |
| 1759   | LISN 50 µH                      | ESH3-Z5       | R&S           | 22/24/27, 15C, 15B |
| 2097   | Pulse Limiter                   | ESH3-Z2       | R&S           | 22/24/27, 15C, 15B |
| 1999   | Receiver                        | ESIB26        | R&S           | 22/24/27, 15C, 15B |
| 2180   | Communication Tester            | CMU200        | R&S           | 22/24/27, 15C, 15B |
| 2390   | Directional Coupler             | DC2600        | AR            | -                  |
| -      | RF immunity / Emission Software | EMC32         | R&S           | 22/24/27, 15C, 15B |
| 2060   | LISN 50 µH                      | ESH3-Z5       | R&S           | 15C, 15B           |
| 1759   | LISN 50 µH                      | ESH3-Z5       | R&S           | 15C, 15B           |
| 2039   | Power Supply                    | PL330QMD      | Thurlby       | 15C, 15B           |
| 6036   | Data Logger                     | 175-H2        | Testo         | 22/24/27, 15C, 15B |
| 2359   | Temperature Test Chamber        | VT4002        | Vötsch        | 22/24/27           |
| 2352   | Spectrum Analyzer               | FSP-30        | R&S           | 22/24/27, 15C      |
| 6109   | Communication Tester            | CMU200        | R&S           | 22/24/27, 15C      |
| 6246   | Power Supply                    | 66332A        | HP            | 22/24/27, 15C      |
| 1992   | Signal Generator                | 83630B        | Agilent       | 15C, 15B           |
| 6098   | Signal Generator                | 8648C         | Agilent       | -                  |
| 6046   | Attenuator 10dB                 | 8493C         | Agilent       | 22/24/27, 15C      |
| 6047   | Attenuator 20dB                 | 8493C         | Agilent       | 22/24/27, 15C      |
| 6045   | Power splitter                  | 11667B        | Agilent       | 22/24/27, 15C      |
| 6247   | Communication Tester            | CBT           | R&S           | 22/24/27, 15C 15B  |
| 6052   | Communication Tester            | CMU200        | R&S           | 22/24/27, 15C 15B  |
| 6248   | Power Supply                    | 6632B         | -             | 22/24/27, 15C 15B  |
| 6106   | Spectrum Analyzer               | FSP-30        | R&S           | 22/24/27, 15C 15B  |
| 6113   | Signal Generator                | SMF100A       | R&S           | 22/24/27, 15C 15B  |
| 6202   | Temperature Test Chamber        | VT4002        | Vötsch        | 22/24/27, 15C 15B  |
| 6122   | Power Splitter                  | 11667B        | Agilent       | 22/24/27, 15C 15B  |
| 6134   | Attenuator 10dB                 | BW-S10-2W263+ | Mini-Circuits | 22/24/27, 15C      |
| 6136   | Attenuator 20dB                 | BW-S20-2W263+ | Mini-Circuits | 22/24/27, 15C      |
| 6103   | Bluetooth tester                | CBT           | R&S           | 22/24/27, 15C 15B  |
| 6250   | Power Supply                    | 6651A         | Agilent       | 22/24/27, 15C 15B  |
| 6108   | Communication Tester            | CMU200        | R&S           | 22/24/27, 15C 15B  |
| 6105   | Spectrum Analyzer               | FSV-30        | R&S           | 22/24/27, 15C 15B  |
| 6251   | Temperature Test Chamber        | VT4002        | Vötsch        | 22/24/27, 15C 15B  |
| 6243   | Power Splitter                  | 1167B         | Agilent       | 22/24/27, 15C 15B  |
| 6245   | Attenuator 10dB                 | BW-S10-2W263+ | Mini-Circuits | 22/24/27, 15C 15B  |
| 6244   | Attenuator 20dB                 | BW-S20-2W263+ | Mini-Circuits | 22/24/27, 15C 15B  |

### 8.2. Radiated measurements

| Eq. No | Equipment                    | Type      | Manufacturer | Used in            |
|--------|------------------------------|-----------|--------------|--------------------|
| 2388   | Bluetooth Tester             | CBT       | R&S          | 15B                |
| 10479  | Communication Tester         | CMW500    | R&S          | 22/24/27, 15C, 15B |
| 2347   | Communication Tester         | CMU200    | R&S          | 22/24/27, 15C, 15B |
| 2009   | Signal Generator             | SMP 22    | R&S          | 22/24/27, 15C, 15B |
| 2348   | Controller                   | G-1000DXC | Yaesu        | 22/24/27, 15C, 15B |
| 2349   | Computer Controller          | g-1000DXC | Yaesu        | 22/24/27, 15C, 15B |
| 2116   | Controller                   | EMCO 2090 | ETS          | 22/24/27, 15C, 15B |
| 2109   | Power Supply                 | PL330QMD  | Thurlby      | 22/24/27, 15C, 15B |
| 2353   | Receiver                     | ESIB26    | R&S          | 22/24/27, 15C, 15B |
| 6115   | Open switch and control unit | OSP 130   | R&S          | 22/24/27, 15C 15B  |
| 6116   | Open switch and control unit | OSP 150   | R&S          | 22/24/27, 15C 15B  |

| Eq. No | Equipment                       | Type                                   | Manufacturer | Used in            |
|--------|---------------------------------|----------------------------------------|--------------|--------------------|
| 6117   | Open switch and control unit    | OSP 150                                | R&S          | 22/24/27, 15C, 15B |
| 6131   | Notch Filter                    | WRCT902.4-0.4/40-8SS                   | Wainwright   | 22/24/27, 15C, 15B |
| 6130   | Notch Filter                    | WRCD1880-1.1.25/50-10SS                | Wainwright   | 22/24/27           |
| 6159   | Band Reject Filter              | WRCD1747.8-0.4/40-5SS                  | Wainwright   | 22/24/27, 15C, 15B |
| 6158   | Band Reject Filter              | WRCT836.6-0.4/40-8SS                   | Wainwright   | 22/24/27, 15C, 15B |
| 6197   | Band Reject Filter              | WRCJV2531/2539-2523/2547-60/12SS       | Wainwright   | 22/24/27, 15C, 15B |
| 2231   | Band Reject Filter              | WRCG1947/1953-1940/1960-40/6SS         | Wainwright   | 22/24/27, 15C, 15B |
| 2391   | Band Reject Filter              | WRCG1729.4/1735.4-1722.4/1742.4-40/6SS | Wainwright   | 27                 |
| 2386   | Band Reject Filter              | WRCG1764.4/1770.4-1760.4/1774.4-40/6SS | Wainwright   | 22/24/27, 15C, 15B |
| 2385   | Band Reject Filter              | WRCG1744.4/1750.4-1740.4/1754.4-40/6SS | Wainwright   | 22/24/27, 15C, 15B |
| 2357   | Band Reject Filter              | WRCG2400/2483-2390/2493-35/10SS        | Wainwright   | 15C                |
| 2188   | Preamplifier                    | AFS4-00100300-20-23P-6                 | Miteq        | 22/24/27, 15C, 15B |
| 6195   | High Pass Filter                | -                                      | Wainwright   | 22/24/27, 15C, 15B |
| 2364   | Band Reject Filter              | WRCG1877/1883 - 1870/1890-40/6SS       | Wainwright   | 24                 |
| 2361   | Anechoic Chamber                | 3 m Semi / Full Anechoic Chamber       | Euroshield   | 22/24/27, 15C, 15B |
| 6212   | Antenna Array system            | -                                      | TCC          | 22/24/27, 15C, 15B |
| -      | RF immunity / Emission Software | EMC32                                  | R&S          | 22/24/27, 15C, 15B |
| 6089   | Antenna                         | HFH2-Z2                                | R&S          | 15C, 15B           |
| 2027   | CDN                             | M2 (modified) DC1                      | MEB          | 22/24/27, 15C, 15B |
| 2028   | CDN                             | M3 (modified) DC2                      | MEB          | 22/24/27, 15C, 15B |
| 2176   | CDN                             | CDN 801-M3                             | Lüthi        | 22/24/27, 15C, 15B |
| 2135   | CDN                             | CDN 801-M3                             | Lüthi        | 22/24/27, 15C, 15B |
| 2029   | Power Supply                    | PL330                                  | Thurlby      | 22/24/27, 15C      |
| 6038   | Data Logger                     | Testo 580                              | Testo        | 22/24/27, 15C, 15B |
| 6037   | Data Logger                     | 175-H2                                 | Testo        | 22/24/27, 15C, 15B |
| 6039   | USB Interface                   | 5541765                                | Testo        | 22/24/27, 15C, 15B |